

REMARKS

In the Final Office Action of April 16, 2008, the title of the invention was alleged to be not descriptive, and thus, a new title has been required that is clearly indicative of the invention to which the claims are directed. In addition, claims 1, 2, 4-6, 8 and 10-31 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent No. 6,363,338 (hereinafter "Ubale et al.") in view of U.S. Patent Application No. 2002/0173950 A1 (hereinafter "Vierthaler"). Furthermore, claims 3, 7 and 9 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Ubale et al. in view of Vierthaler and in further view of U.S. Patent No. 4,630,305 (hereinafter "Borth et al.") or U.S. Patent No. 5,890,125 (hereinafter "Davis et al.")

With respect to the title of the invention, Applicant has amended the title so that the amended title is clearly indicative of the invention to which the claims are directed. Thus, Applicant respectfully requests that the objection to the specification with respect to the title be withdrawn.

With respect to the claim rejections, Applicant has amended the independent claims 1, 2, 18 and 19 to more clearly distinguish the claimed invention from the cited references of Ubale et al. and Vierthaler. Claim 10 has also been amended to remove a reference numeral. As amended, Applicant respectfully asserts that the independent claims 1, 2, 18, 19 and 27 are not obvious in view of the cited references of Ubale et al. and Vierthaler, as explained below. In view of the claim amendments and the following remarks, Applicant respectfully requests that the pending claims 1-31 be allowed.

A. Patentability of Amended Independent Claims 1, 2, 18 and 19

As amended, the independent claim 1 recites in part "*wherein the average gain factor for the first range is greater than the average gain factor for the second range such that the average gain factor for the first range lies at least 6 dB below that for the second range,*" which is not disclosed in the cited references of Ubale et al.

and Vierthaler. Thus, Applicant respectfully asserts that the amended independent claim 1 is not obvious in view of the cited references of Ubale et al. and Vierthaler, and requests that the amended independent claim 1 be allowed.

5 As correctly stated on page 4 of the Office Action, the cited reference of Ubale et al. “does not disclose specifically a gain factor with a functional relationship such that the functional relationship between gain factor (z) and input level (y) comprises a first (I) and second range (II), the first range (I) covering amplitudes in which mainly
10 voiced phonemes are situated, the second range (II) situated at input levels (y) lower than those for the first range (I) and covering input levels in which mainly unvoiced phonemes are situated, wherein the functional relationship is such that the average gain factor for the first range (I) lies at least 6 dB below that for the second range (II).” Consequently, the cited reference of Ubale et al. also does not disclose the limitation of “*wherein the average gain factor for the first range is greater than the
15 average gain factor for the second range such that the average gain factor for the first range lies at least 6 dB below that for the second range,*” as recited in the amended independent claim 1.

 The cited reference of Vierthaler discloses a circuit for improving the
20 intelligibility of audio signals containing speech. The circuit of Vierthaler includes a low pass filter 10, a variable high pass filter 20 and an amplifier, as shown in Figs. 1-3. As described in paragraph [0028] of Vierthaler, the amplifier 30 has a gain g, which is adjustable and is preferably in the range of between approximately 1.5 and 4.” The cited reference of Vierthaler also states in paragraph [0028] that “[o]nce an
25 amplification factor is set, it is preferably not changed.” Thus, in the circuit of Vierthaler, the same set or fixed amplification factor is used for vowels and consonants. This conclusion is further supported in paragraph [0028] of Vierthaler, where it is described that a selected amplification of 6 dB is used for a vowel, as well as a consonant. Consequently, the cited reference of Vierthaler does not disclose
30 “*wherein the average gain factor for the first range is greater than the average gain factor for the second range such that the average gain factor for the first range lies at least 6 dB below that for the second range,*” as recited in the amended independent

claim 1. Thus, the amended independent claim 1 is not obvious in view of the cited references of Ubale et al. and Vierthaler.

The above remarks are also applicable to the amended independent claims 2, 18 and 19, which recite similar limitations as the amended independent claim 1. Thus, these amended independent claims 2, 18 and 19 are also not obvious in view of the cited references of Ubale et al. and Vierthaler.

Furthermore, with respect to the amended independent claims 2 and 19, the cited references of Ubale et al. and Vierthaler also do not disclose the limitation of *“the first range extending from a maximum value input level downwards at least 10 dB.”* Although paragraph [0004] of Vierthaler does mention “-10 dB limiting,” the cited reference of Vierthaler does not disclose a first range that extends *“from a maximum value input level downwards at least 10 dB,”* as recited in the amended independent claims 2 and 19, which further supports the conclusion that these independent claims are not obvious in view of the cited references of Ubale et al. and Vierthaler.

B. Patentability of Independent Claim 27

The independent claim 27 recites in part *“the gain factor for the unvoiced phonemes being fixed at a particular level, the gain factor for the voiced phonemes being varied such that the gain factor is decreased inversely with respect to the input level of the voiced phonemes,”* which is not disclosed in the cited references of Ubale et al. and Vierthaler. Thus, Applicant respectfully asserts that the independent claim 27 is not obvious in view of the cited references of Ubale et al. and Vierthaler, and requests that the independent claim 27 be allowed.

As explained above, in the circuit of Vierthaler, the same set or fixed amplification factor is used for vowels and consonants. Consequently, the cited reference of Vierthaler does not disclose *“the gain factor for the unvoiced phonemes being fixed at a particular level, the gain factor for the voiced phonemes being varied such that the gain factor is decreased inversely with respect to the input level of the*

voiced phonemes,” as recited in the independent claim 27. Thus, the independent claim 27 is not obvious in view of the cited references of Ubale et al. and Vierthaler.

C. Patentability of Dependent Claims 3-17, 20-26 and 28-31

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Each of the dependent claims 3-17, 20-26 and 28-31 depends on one of the independent claims 1, 2, 18, 19 and 27. As such, these dependent claims include all the limitations of their respective base claims. Therefore, Applicant submits that these dependent claims are allowable for at least the same reasons as their respective
10 base claims.

As an example, the dependent claim 3 recites “*wherein the attributor is arranged such that the first range extends from the maximum value input level at least 15 dB, but not more 30 dB,*” which is not disclosed in the cited references of Ubale et
15 al., Vierthaler and Borth et al. The Office Action on page 13 alleges that the cited reference of Borth et al. discloses “using a gain value that can increase up to a max value (column 8 lines 50-65) of which has a max limit of 20 db (column 9 lines 1-10) because any background noise requiring suppressing higher than 20 dB degrades considerably the quality of the signal (column 2 lines 25-35).” However, the cited
20 passages of Borth et al. describes “noise suppression levels,” not the location of “*the first range*” with respect to “*the maximum value input level,*” as recited in the dependent claim 3. Thus, the cited reference of Borth et al. does not disclose “*wherein the attributor is arranged such that the first range extends from the maximum value input level at least 15 dB, but not more 30 dB,*” as recited in the
25 dependent claim 3, which further supports the conclusion that the dependent claim 3 is not obvious in view of the cited references.

As another example, the dependent claim 12 recites “*wherein the attributor is arranged such that the second range is, at a lower boundary value juxtaposed by a
30 fourth range in which the gain factor is substantially zero,*” which is not disclosed in the cited references of Ubale et al. and Vierthaler. The Office Action alleges on page 10 that the cited reference of Ubale et al. discloses this limitation and states that “the lowest boundary starts at 0 dB and gradually increases as shown by the formula,

column 23 lines 1-30.” However, the cited reference of Ubale et al. does not disclose applying this 0 dB gain factor in “*a fourth range*,” which is situated relative to “*the second range*” such that “*the second range is, at a lower boundary value juxtaposed by [the] fourth range.*” Thus, the cited reference of Ubale et al. does not disclose
5 “*wherein the attributor is arranged such that the second range is, at a lower boundary value juxtaposed by a fourth range in which the gain factor is substantially zero,*” as recited in the dependent claim 12, which further supports the conclusion that the dependent claim 12 is not obvious in view of the cited references.

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Applicant respectfully requests reconsideration of the claims in view of the remarks made herein. A notice of allowance is earnestly solicited.

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Respectfully submitted,
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